

11. BOSTON HARBOR AND APPROACHES

(1) This chapter describes Boston Harbor, its approaches and tributaries, and the major commercial facilities in the port of Boston. The more important tributaries include Charles, Chelsea, Mystic, and Weymouth Fore Rivers, and Dorchester and Hingham Bays.

(2) **COLREGS Demarcation Lines.**—The lines established for Boston Harbor are described in **80.130**, chapter 2.

(3) **Chart 13270.—Boston Harbor**, the largest seaport in New England, includes all the tidewater lying within a line from the southern extremity of Deer Island to Point Allerton, about 4 miles to the southeastward. Numerous dangers lie in the approaches to the harbor. The northeastern approach is obstructed by islands and shoals which extend 4 miles from the entrance; between them are the dredged channels which lead into the harbor. In the southeastern approach, broken ground extends as much as 3 miles from shore. The approaches are marked by a number of powerful lights, and the principal dangers are buoyed.

(4) **Traffic Separation Scheme (Boston)** has been established in the approach to Boston Harbor. (See charts 13270, 13267, 13246, 13260, and 13200.)

(5) The Scheme is composed basically of **directed traffic lanes** each with one-way inbound and outbound traffic lanes separated by a **defined separation zone** and two **precautionary areas**. The Scheme is recommended for use by vessels approaching or departing from Boston Harbor, but is not necessarily intended for tugs, tows or other small vessels which traditionally operate outside of the usual steamer lanes or close inshore.

(6) **The Traffic Separation Scheme has been designed to aid in the prevention of collisions at the approaches to major harbors, but is not intended in any way to supersede or alter the applicable Navigation Rules. Separation zones are intended to separate inbound and outbound traffic lanes and to be free of ship traffic, and should not be used except for crossing purposes. Mariners should use extreme caution when crossing traffic lanes and separation zones.** (See Traffic Separation Schemes, chapter 1, for additional information.)

(7) A **precautionary area** is at the junction of Traffic Separation Scheme (Boston) and the Eastern Approach Off Nantucket to Traffic Separation Scheme Off New York. (See U.S. Coast Pilot 2, Atlantic Coast, Cape Cod to Sandy Hook, for a description of Traffic Separation Scheme Off New York. Consult charts 12300 and 13006 for the Off New York Scheme.) The precautionary area is bounded on the east by a circle with a radius of 15.5 miles centered in 40°35.0'N., 69°00.0'W. and intersected by the Traffic Separation Schemes, and is bounded on the west by a line connecting the Schemes at points in 40°36.75'N., 69°15.16'W. and 40°48.00'N., 69°03.33'W.

(8) The **precautionary area** in the approach to Boston Harbor has a radius of 5 miles centered on Boston Lighted Horn Buoy B (42°22'42"N., 70°47'00"W.), excluding that area of the circle bounded by an imaginary line extending between the outer limits of the inbound and outbound traffic lanes.

(9) The **separation zone** is a 1-mile zone centered in the following positions: (i) 42°21'13"N., 70°41'31"W., (ii) 42°08'16"N., 69°53'36"W., and (iii) 40°49'09"N., 69°00'00"W.

(10) **Inbound traffic lane** is a 2-mile-wide lane with a length of about 127.5 miles. Entering the traffic lane at a point in about 40°50'00"N., 68°58'00"W., a course of **333°** for about 89 miles,

thence a course of **290°** for about 38.5 miles follows the centerline of the traffic lane to the junction with the precautionary area.

(11) **Outbound traffic lane** is a 2-mile-wide lane with a length of about 124.5 miles. Entering the traffic lane at a point in about 42°19'30"N., 70°42'00"W., a course of **110°** for about 37 miles, thence a course of **153°** for about 87.5 miles follows the centerline of the traffic lane to the junction with the precautionary area; thence steer usual courses to destination.

(12) The Traffic Separation Scheme is buoyed.

(13) **Prominent features.—Boston Lighted Horn Buoy B** (42°22.7'N., 70°47.0'W.) is about 7.8 miles east-northeastward of Deer Island. The buoy is equipped with a fog signal and racon. (See Light List for details of operation.)

(14) Conspicuous to a vessel approaching Boston Harbor from northeastward is the tall red, white, and blue standpipe on Winthrop Head. From eastward, the most prominent island in the entrance is Great Brewster. On the south side of the entrance, a turreted tower is conspicuous on Point Allerton; also prominent are the tank and standpipe on Strawberry Hill. Two miles south of Point Allerton are two radio towers which are illuminated at night.

(15) The outstanding landmarks in the city of **Boston** are the John Hancock Building, the Prudential Building, the bridge over Mystic River, the control tower at Logan International Airport, the pointed tower of the customhouse, and a large gas tank in Chelsea. Also prominent are the John F. Kennedy Federal Building in Boston and a spire at Squantum.

(16) **Security Broadcast System, Boston Harbor.** In conjunction with various maritime interests, the Coast Guard has developed a system of recommended radiotelephone procedures for Boston Harbor that is designed to supplement the Vessel Bridge-to-Bridge Radiotelephone Regulations (33 CFR 26) (see chapter 2). These **voluntary** procedures consist of Security calls to be made by vessel masters, pilots, or operators on VHF-FM channel 13 at designated points. The procedures are designed to give notice of unseen vessels, give notice of intended movement, clear channel 13 of traffic unrelated to navigation, give each vessel information on all others in the immediate vicinity, and to do so at little cost and with as little radiotelephone traffic as possible. These recommendations do not relieve a master, pilot, or operator of any requirements of law or regulation. There is no guarantee that every vessel will follow them.

(17) Vessels inbound for Boston should make Security calls when boarding a pilot (in the vicinity of Boston Lighted Horn Buoy B), when entering Boston North Channel at Entrance Lighted Gong Buoy NC, in President Roads abreast Deer Island, in the vicinity of Commonwealth Pier in South Boston (state whether bound for Mystic River or Chelsea River), and near the confluence of Mystic and Chelsea Rivers. Outbound vessels should make Security calls when singled up, when underway off their dock, near the confluence of Mystic and Chelsea Rivers, in the vicinity of Commonwealth Pier in South Boston, when approaching Deer Island in President Roads, and when disembarking the pilot (give destination information).

(18) Vessels inbound for Quincy or Braintree should make Security calls when approaching the pilot pickup point in the vicinity of Thieves Ledge, when approaching Boston Light, and when picking up tugs in Nantasket Roads off Georges Island. Outbound vessels should make Security calls when singled up, when

underway off the dock, abreast Germantown Point starting out the channel, and when approaching Hull.

(19) **Northeastern approach.—Deer Island**, on the northwest side of the entrance to Boston Harbor, is about 1 mile long and is joined to the mainland by a fill.

(20) **Deer Island Light** (42°20.4'N., 70°57.3'W.), 53 feet above the water, is shown from a red cylindrical tower on a black cylindrical pier on the outer end of a ledge that extends 0.3 mile southward from the island. A fog signal is at the light.

(21) **Winthrop Head**, about 1 mile northward of the northwestern end of Deer Island, is a 100-foot hill covered with buildings and a tall red, white, and blue standpipe on top which is the most prominent mark in the vicinity. **Winthrop Beach** lies along the shore just northward of Winthrop Head. About 0.2 mile off and parallel to Winthrop Beach is a breakwater about 0.4 mile long which is bare several feet at the highest tides and is fairly prominent. Small craft moor behind the breakwater; there are no landings or facilities.

(22) **Great Faun**, the inner part of the shoal ground extending from the northeastern side of Deer Island, is a partly drying flat, marked on its outer part by a buoy which is about 1 mile northeastward of Deer Island Light and 0.3 mile northwestward of Boston North Channel. **Little Faun**, which uncovers on its inner part, extends 0.5 mile eastward from the southern end of Deer Island.

(23) **Finns Ledge**, covered 25 feet, lies on the western side of the entrance to Boston North Channel, the principal approach to the harbor. The ledge, marked by a lighted bell buoy, is at the outer end of shoal ground covered less than 36 feet. The shoal ground extends about 2 miles northeastward from Deer Island. Careful navigation is required in the channel entrance, especially when incoming and outgoing vessels meet.

(24) In August 1991, a dangerous wreck was reported on the eastern side of the entrance to Boston North Channel in about 42°22'11"N., 70°54'42"W.

(25) **The Graves**, a group of bare rocks and ledges about 4 miles east-northeastward of the southern point of Deer Island, extend 0.5 mile north-northeastward and 0.1 mile south-southwestward from The Graves Light. **Northeast Grave**, the northernmost of these rocks, uncovers 3 feet, and from it shoal ground extends about 0.3 mile northeastward; a lighted whistle buoy is moored 0.5 mile northeast of Northeast Grave. **The Graves Light** (42°21.9'N., 70°52.1'W.), 98 feet above the water, is shown from a light gray conical granite tower; a fog signal is at the light station.

(26) **Roaring Bulls**, which partly uncover, are a group of rocks which lie from 0.5 to 0.9 mile southwestward of The Graves Light; the highest rocks uncover 8 feet.

(27) **Green Island**, 44 feet high, is 1.2 miles southwestward of The Graves Light and 0.4 mile west-southwestward of the Roaring Bulls. The island is on a drying reef, with several other islets on it, which extends 0.3 mile southwestward from the island.

(28) **Commissioners Ledge**, **Devils Back**, and **Aldridge Ledge** lie 0.5 to 1 mile westward of Green Island and close southeastward of Boston South Channel; Devils Back is covered 1 foot over its northeast end. Between these ledges and Green Island are **Maffitt Ledge**, covered 17 feet, and **Halftide Rocks**, which uncover 4 feet. A dangerous wreck and a reported submerged obstruction are 250 yards northeastward and about 300 yards eastward, respectively, of Maffitt Ledge.

(29) Between Boston South Channel and Boston North Channel is a large area of shoal ground. The shoalest spot in this area is covered 8 feet and lies 1.3 miles east-northeastward of Deer Island Light.

(30) **Southeastern approach.—Point Allerton**, on the southeast side of the entrance to Boston Harbor, is 3.7 miles from the southern end of Deer Island. On the point is a 100-foot hill covered with buildings; a seawall protects the seaward base of the hill. A turreted tower on the hill is conspicuous.

(31) From Point Allerton the shore extends westward for 2 miles to **Windmill Point**, which is marked by a light and fog signal. The Coast Guard has a boathouse on the southern side of Windmill Point and another about 0.3 mile eastward of the point at the **Point Allerton Coast Guard Station**. **Telegraph Hill**, 1 mile west of Point Allerton, is about 100 feet high and is marked by a stone tower with a conical top; the town of **Hull** is on the western slopes of the hill. Excursion vessels from Boston call at the town wharf in summer and stop at Georges Island on the way.

(32) **Nantasket Beach**, extending about 3 miles south-southeastward from Point Allerton, is covered with buildings. Grassy **Strawberry Hill**, 1.2 miles southward of Point Allerton, is about 100 feet high and is marked by a tank and a standpipe. Two other grassy hills, **White Head** and **Sagamore Hill**, are on the southern part of the beach 2 and 2.4 miles, respectively, from Point Allerton. From Nantasket Beach to Cohasset Harbor, about 3 miles to the east-southeastward, the coast presents a general hilly appearance, and rocks and sunken ledges extend 0.5 mile off-shore in places.

(33) **Atlantic Hill**, **Center Hill**, and **Green Hill** are prominent on the stretch of coast between Nantasket Beach and Cohasset Harbor. **Gun Rock** is off the west point of the entrance of a cove off **Crescent Beach**, between Center Hill and Green Hill. The cove is protected by a breakwater extending 135 yards northward from the foreshore at Green Hill; thence 330 yards westward to the vicinity of **Seal Rock**, which is about 500 yards eastward of Gun Rock.

(34) **Black Rocks** are a group of rocky islets off Green Hill. The large 20-foot-high islet has a house on it.

(35) Shoals extend eastward and northward from Point Allerton. Two drying rocks, about 0.1 mile apart, lie about 0.2 mile northward of the point; the eastern rock uncovers 5 feet. A lighted bell buoy is moored about 0.5 mile northward of the point. **Ultonia Ledge**, the eastern end of the broken ground, has unmarked spots covered 15 to 24 feet extending 1.3 miles east-northeastward from the point.

(36) **Harding Ledge**, 1.5 miles eastward of Point Allerton, uncovers before low water. A detached rock, which uncovers 1 foot, is 300 yards southwest of the ledge. Between Harding Ledge and Point Allerton, the bottom is very uneven, and vessels should pass outside the lighted bell buoy which is moored 0.3 mile northeast of the ledge.

(37) **Thieves Ledge**, 2.4 miles east-northeastward of Point Allerton and covered 27 feet, is marked on its northeast side by a lighted whistle buoy. Patches covered 32 feet and 34 feet are 0.5 mile east-northeastward and 1 mile east-southeastward, respectively, of the 27-foot spot. In heavy easterly gales the sea sometimes breaks on the ledge and the patches.

(38) **Three and One-half Fathom Ledge**, cleared to a depth of 18 feet, about 3 miles northeastward of Point Allerton, is marked by a lighted bell buoy about 0.2 mile southeastward of the ledge. **Martin Ledge**, covered 14 feet, is 0.8 mile southwest

of Three and One-half Fathom Ledge and is marked on its eastern side by a buoy. **Boston Ledge**, covered 18 feet, is 1.4 miles southwest of Three and One-half Fathom Ledge and is marked by a buoy.

(39) **Shag Rocks**, 1.2 miles northward of Point Allerton and 0.3 to 0.6 mile east-northeastward of Boston Light, are 20 feet high and surrounded by extensive covered ledges and foul ground. Reefs and foul ground extend 0.5 mile east-northeastward to within 0.2 mile of Boston Ledge, and west-southwestward to within 0.2 mile of Boston Light.

(40) **Nash Rock Shoal**, covered 19 feet, lies about 0.4 mile southwest of Boston Light.

(41) **Boston Light** ($42^{\circ}19.7'N.$, $70^{\circ}53.4'W.$), 102 feet above the water, is shown from an 89-foot white conical tower, on the southeast side of **Little Brewster Island**, about 1 mile northward of Point Allerton; a fog signal is at the light station.

(42) **Great Brewster Island**, 0.4 mile northwest of Little Brewster Island, is 103 feet high and has a bluff at the north end. A State-owned recreational pier is on the western side of Great Brewster Island; docking is permitted for loading and unloading only. Little Brewster and Great Brewster Islands lie on the northern side of the southeastern approach on a drying bank, of which **Great Brewster Spit**, the western part, extends about 1 mile west-southwestward from Great Brewster Island. The western end of the spit is marked by **The Narrows Light 4**. Shoal ground extends about 0.3 mile southward from Great Brewster Spit, and on this extension are **Kelp Ledges**, awash, about 0.8 mile westward of Boston Light.

(43) From the northern end of the bank on which Great Brewster Island lies, reefs extend about 1 mile east-northeastward and 0.7 mile northward; on the eastern extension are **Middle Brewster Island** and **Outer Brewster Island**, and on the northern extension are **Calf Island** and **Little Calf Island**. On these reefs are several islets, and off-lying them are numerous shoals, the area between the Brewsters and Shag Rocks being particularly foul. Among these dangers is **Tewksbury Rock**, covered 9 feet, which is about midway between Outer Brewster Island and Martin Ledge.

(44) **Georges Island** is about 1.6 miles west-southwestward of Boston Light and 0.8 mile north-northwestward across Nantasket Roads from Windmill Point. The island is the site of historic **Fort Warren** and has several other buildings on it. A State recreation park is on the island, and a State landing is in a protected basin at the wharf on the west shore of the island. Daytime berthing and a limited amount of water are available. A seasonal ferry runs from the Boston waterfront to this wharf and from here to several nearby islands and to Boston.

(45) **Lovell Island** is 0.3 mile northward across The Narrows from Georges Island and on the south side of Boston South Channel. A pier is on the southwest side of the island. Ruins of several buildings are on the island. **Ram Head Flats** and **Ram Head** extend up to 0.8 mile northeastward from the island; Ram Head partly uncovers.

(46) **Gallops Island**, 0.3 mile northwestward of Georges Island and 0.2 mile westward across The Narrows from Lovell Island, is high and grassy on its northern side. The island is marked by a light off its eastern end. A pier, protected by a breakwater, is on the southwest side. A reef named **Nixes Mate** lies on the outer part of the shoal ground which extends 0.4 mile northwestward from Gallops Island; near the center of the reef is a low islet marked by a daybeacon.

(47) **Long Island**, 0.6 mile westward of Gallops Island and 0.8 mile southward across President Roads from Deer Island, is 1.5 miles long in a northeast-southwest direction and has a greatest width of about 0.25 mile. Long Island is connected to Moon Head by a fixed bridge with a clearance of 51 feet for a center width of 150 feet at the channel span. A large standpipe with red and white checkered sections and a tall brick stack are prominent on Long Island. The island has two wharves on the northwest side; both are in poor repair, or ruins. **Long Island Head Light** ($42^{\circ}19.8'N.$, $70^{\circ}57.5'W.$), 120 feet above the water, is shown from a white brick tower on the north side of the island.

(48) **Spectacle Island**, on the south side of President Roads and 0.7 miles westward of Long Island, consists of two hills separated by a low valley. The ruins of several piers are on the west side of the island.

(49) **Channels**.—Boston North Channel, Boston South Channel, and The Narrows are the main entrances from the sea to President Roads. Several other channels of less importance are used by local vessels.

(50) **Boston North Channel** leads from Broad Sound to President Roads from the northeastward. It is the principal entrance to Boston Harbor. A Federal project provides for a channel 1,500 feet wide dredged to 40 feet in the eastern 900 feet, and 35 feet in the western 600 feet. The channel is well marked by lighted buoys. (See Notice to Mariners and the latest edition of the chart for controlling depths.)

(51) **Boston South Channel** leads from Broad Sound in a southwesterly and westerly direction to President Roads. A Federal project provides for a channel 1,200 feet wide dredged to 30 feet deep. The channel is marked by lighted and unlighted buoys. (See Notice to Mariners and the latest edition of the chart for controlling depths.) Sunken wrecks are in the vicinity of Lighted Buoy 5 and along the south side of the channel in the vicinity of Lighted Buoy 9.

(52) Pilots of deep-draft vessels use the North Channel most of the time. The South Channel is rarely, if ever, used, because deep-draft vessels have a tendency to feel the bottom, making steering difficult.

(53) **President Roads**, between Deer Island and Governors Island Flats, has depths of 30 to 60 feet with a sand and mud bottom. Its northern part is used as a quarantine anchorage.

(54) **Nantasket Roads**, westward of the southern entrance to The Narrows, is a good anchorage with depths up to 50 feet. There are numerous shoals in it that must be avoided by deep-draft vessels; the chart is the guide.

(55) **The Narrows** is a channel that extends from Nantasket Roads northwest to President Roads. It is bounded on the northeast side by Great Brewster Spit and Lovell Island and on the southwest side by Georges Island and Gallops Island. Depths of about 26 feet can be carried in the well-marked channel, however, shoals with considerably lesser depths are along the edges of the channel.

(56) Because of the strong currents and sharp turns, it is necessary to conn a ship by eye through the approaches and in The Narrows channel. The navigator must take precautions to prevent being set off course by crosscurrents sweeping in or out of Black Rock Channel and the channel between Gallops Island and Georges Island.

(57) **Hypocrite Channel** is a natural channel leading between Green Island on the north and Little Calf Island on the south. The greatest draft that can be carried through it to Boston South

Channel is about 18 feet. The channel has several unmarked dangers and is not recommended for strangers or for large vessels.

(58) **Black Rock Channel** leads into The Narrows from north-eastward between Great Brewster Spit on the southeast and Lovell Island and Ram Head Flats on the northwest. The channel is marked by buoys. There is an unmarked ledge covered 8 feet nearly in midchannel. The channel is used only by small local craft and is not recommended for strangers.

(59) A channel 250 yards wide leads into The Narrows from westward between Georges Island and Gallops Island. A light is on the north side of the channel near the end of the shoal off the southeast end of Gallops Island. The channel is suitable only for quick-working vessels on account of the sharp turn into The Narrows.

(60) **Nubble Channel** leads from Nantasket Roads to President Roads between Nixes Mate and Long Island. Depths of about 12 feet can be carried in the channel. The channel is marked by buoys and a directional light shown from a 4-foot spindle next to Deer Island Light.

(61) **Sculpin Ledge Channel** leads between Long Island and Spectacle Island. It will accommodate vessels of about 8-foot draft to Hingham Bay by the passage southward of Peddocks Island. The deeper water favors Long Island, and in coming from President Roads the island should be followed at a distance of about 400 yards until up with the buoy southward of Sculpin Ledge. Pass about 300 yards southeastward of the buoy and round the southwesterly end of Long Island at a distance of 300 yards and pass under the channel span of the Long Island Viaduct.

(62) A fish haven, covered 14 feet, is in Sculpin Ledge Channel. The reef is west of the standpipe on Long Island along a northeast-southwest axis in about 42°19'26"N., 70°58'15"W.

(63) In November 2000, a rock covered 5 feet was reported about 200 yards northeast of Sculpin Ledge.

(64) The channel leading from Nantasket Roads to Boston, southward of Long Island and Spectacle Island, is partially marked by buoys and can be used by boats of 8-foot draft with the aid of the chart.

(65) **Boston Main Channel** (also see chart 13272) extends along the southern side of President Roads to the mouths of the Chelsea and Mystic Rivers, and to Charlestown Bridge on the Charles River. The Federal project provides for a 40-foot channel from President Roads to the mouth of the Mystic River. The right half of the channel from President Roads to Commonwealth Pier 5, South Boston, and the left half of the channel just northwest of Commonwealth Pier 5 to the Charles River has a Federal project depth of 35 feet. (See Notice to Mariners and latest edition of charts for controlling depths.) In October 2000, a rock was reported, covered 37 feet, in about 42°20'05"N., 70°59'54"W., in the center of the channel between Light 5 and Buoy 6.

(66) The waters adjacent to the piers and wharves extending northward from Northern Avenue Bridge to and including Pier 4 along the Boston proper waterfront westward of the Boston Main Channel are **nonnavigable** because of the redevelopment of this section of the waterfront. Uncharted hazards or dangers may exist in these waters. Strangers are advised to seek local knowledge before entering, and all mariners are advised to exercise caution in the area. This area is shown in magenta on chart 13272.

(67) **Anchorage** (also see chart 13272).—General, explosives, and special anchorages are in Boston Harbor. (See **110.1, 110.30, and 110.134**, chapter 2, for limits and regulations.)

(68) The anchorage on the north side of President Roads is the most commonly used general anchorage in Boston Harbor. The anchorage in Nantasket Roads, westward of the southern entrance to The Narrows, is good with depths up to 50 feet. The anchorage on the westerly side of Georges Island has depths up to 36 feet and better bottom, and is sheltered from easterly winds. This anchorage is frequently used by vessels seeking shelter in easterly gales. In July 1986, a dangerous sunken wreck was reported in the anchorage off Logan International Airport in about 42°21'24"N., 71°01'48"W.

(69) **Tides**.—The mean range of tide is 9 feet at the entrance to Boston Harbor and 9.5 feet at Boston and Charlestown. (See Tide Tables for daily predictions.)

(70) **Currents**.—Daily predictions are given in the Tidal Current Tables.

(71) The **Tidal Current Charts** for Boston Harbor show the direction and velocity of the tidal current for each hour of the current at Deer Island Light. They present a comprehensive view of the tidal current movement for the harbor as a whole and also supply a means of readily determining for any time the direction and velocity of the current at various localities throughout the harbor.

(72) For some distance northwestward of Cape Cod the tidal currents have a slight set into Cape Cod Bay on the flood and out of the bay on the ebb. Along the north shore of Massachusetts Bay the flood sets in a general southwesterly direction and the ebb in a northeasterly direction. The velocity of the currents is influenced greatly by the force and direction of the wind. Off the entrance to Boston Harbor, the flood sets westward and the ebb eastward, increasing slightly in velocity as the entrance is approached.

(73) The currents at Boston Lighted Horn Buoy B are described in chapter 3.

(74) In Broad Sound the velocity of the current at strength in most places is less than 0.8 knot. This increases to about 1 knot or more on approaching the entrances of the channels leading into Boston Harbor.

(75) In Boston South Channel, north of Ram Head, the velocity at strength is about 1.2 knots. In the channel between Deer Island Light and Long Island Head the velocity at strength is about 1.4 knots. In Hypocrite Channel the velocity at strength is about 1 knot. In Black Rock Channel the velocity at strength is between 0.5 and 1 knot. The flood sets southwestward through the channel and the ebb northeastward. This should be kept in mind when passing through The Narrows.

(76) Near the middle of the channel between Boston Light and Point Allerton the velocity at strength is about 1.5 knots. On the northern side of the channel southward of Great Brewster Spit the velocity is about half as great. In the middle of the channel in Nantasket Roads the velocity at strength is about 1.5 knots. In Nantasket Gut the velocity at strength is about 2.5 knots.

(77) Between Georges Island and Gallops Island the velocity at strength is about 1 knot. The flood sets westward and the ebb northeastward.

(78) Between Gallops Island and Long Island Head the velocity at strength is about 1 knot. The flood current sets southward to southwestward and the ebb in the opposite directions.

(79) Between Moon Head and Long Island, the current is rotary, turning counterclockwise. The average velocity at strength is about 0.2 knot. Usually, strength of flood sets southwestward and strength of ebb eastward. Between Thompson Island and

Spectacle Island the velocity at strength is about 0.5 knot. The flood sets northwestward and the ebb southeastward.

(80) In Boston Main Channel from Spectacle Island to the mouth of the Charles River the velocity at strength varies between 0.5 and 1 knot.

(81) **Weather, Boston and vicinity.**—Three important influences are responsible for the main features of Boston's climate. First, the latitude (42°N.) places the city in the zone of prevailing west to east atmospheric flow in which are encompassed the northward and southward movements of large bodies of air from tropical and polar regions. This results in variety and changeability of the weather elements. Secondly, Boston is situated on or near several tracks frequently followed by systems of low air pressure. The consequent fluctuations from fair to cloudy or stormy conditions reinforce the influence of the first factor, while also assuring a rather dependable precipitation supply. The third factor, Boston's east-coast location, is a moderating factor affecting temperature extremes of winter and summer.

(82) Hot summer afternoons are frequently relieved by the locally celebrated "sea-breeze", as air flows inland from the cool water surface to displace the warm westerly wind component. This refreshing east wind is more commonly experienced along the shore than in the interior of the city or the western suburbs. In winter, under appropriate conditions, the severity of cold waves is reduced by the nearness of the then relatively warm water. The average date of the last occurrence of freezing temperature in spring is April 8; the latest is May 3, 1874 and 1882. The average date of the first occurrence of freezing temperature in autumn is November 7; the earliest on record is October 5, 1881. In suburban areas, especially away from the coast, these dates are later in spring and earlier in autumn by up to one month in the more susceptible localities. The average annual temperature in Boston is 51.8°F (11°C). July is the warmest month with an average maximum of 82°F (27.8°C) and an average minimum of 65°F (18.3°C). January is the coolest with an average high of 37°F (2.8°C) and an average low of 22°F (-5.6°C). Extremes include 102°F (38.9°C) in August 1975 and again in July 1977 and an extreme minimum of -12°F (-24.4°C) in January 1957.

(83) Boston has no dry season. The average annual rainfall is 42.9 inches (1090 mm). For most years the longest run of days with no measurable precipitation does not extend much more than 2 weeks. This "dry spell" may occur at any time of year. Precipitation falls an average of 187 days each year. November is the wettest month averaging 4.4 inches (112 mm) and July the driest averaging 2.8 inches (71 mm). On 28 days each year precipitation can be expected to surpass one-half inch (13 mm) in a 24-hour period.

(84) Much of the rainfall from June to September comes from showers and thunderstorms. During the rest of the year, low-pressure systems pass more or less regularly and produce precipitation on an average of roughly one day in three. Coastal storms, or "nor'easters", are prolific producers of rain and snow. The main snow season extends from December through March. The average annual snowfall total is 43 inches (1092 mm). Snow falls an average 50 days in any given year and has fallen during each month October through May. The number of days with 1.5 inches (38 mm) or more of snowfall is eight per season. Periods when the ground is bare or nearly bare of snow may occur at any time in the winter.

(85) Relative humidity has been known to fall as low as 5 percent (May 10, 1962), but such desert dryness is very rare. Heavy

fog occurs on an average of about 2 days per month with its prevalence increasing eastward from the interior of Boston Bay to the open waters beyond. Fog, in whatever thickness, occurs an average of 135 days each year. Winds from the east to southwest bring fog; westerly and northerly winds clear it away.

(86) At all seasons the heaviest gales are usually from the northeastward or eastward. Although winds of 27 knots (about 32 miles per hour) or higher may be expected on at least one day in every month of the year, gales are both more common and more severe in winter. The predominant wind direction is west through northwest.

(87) The National Weather Service office is in the Customhouse. Barometers may be compared at the Logan International Airport in East Boston.

(88) (See page T-4 for **Boston climatological table.**)

(89) **Fogs** are prevalent throughout the year. Winds from the east to southwest bring fog; westerly and northerly winds clear it away.

(90) **Ice.**—The channels of Boston Harbor are navigable throughout the year. Ice rarely forms in the main channel. Occasionally during severe winters the greater part of the harbor is frozen, but towboats and steamers keep the main channels open. The Charles, Mystic, and Chelsea Rivers and the minor passages in the harbor sometimes are frozen during severe winters. They are almost invariably kept open, however, by tugboat traffic. When ice is prevalent, the buoys may be displaced or even carried away. Local towboats can be employed for breaking ice.

(91) **Routes.**—Boston Harbor and approaches have very broken rocky bottom, and caution is required.

(92) **Approaching Boston from Cape Ann.**—The soundings in the vicinity of Cape Ann are very irregular and cannot be depended on to locate even approximately the vessel's position. A 228° course from 0.2 mile off the lighted whistle buoy, 2.5 miles eastward of Cape Ann Light, clears the offshore dangers between Cape Ann and Nahant, and leads close to the lighted gong buoy marking the entrance to Boston North Channel.

(93) At night the lighted aids are sufficiently numerous to locate the position by cross bearings. In clear weather the course should be shaped to pass well northward of The Graves Light and enter through Boston North Channel.

(94) **Approaching Boston from Cape Cod.**—Approaching the easterly side of the cape, soundings of 20 fathoms indicate a distance of 3 to 3.5 miles from shore, but off the north side of the cape, the 20-fathom curve draws closer inshore and the soundings are not so regular. Vessels standing to clear Boston Lighted Horn Buoy B on a course of 297° from the locality of Peaked Hill Bar Lighted Whistle Buoy 2 PH will cross the southwesterly end of Stellwagen Bank in depths of 12 to 15 fathoms. Soundings on Stellwagen Bank cannot be depended on to locate a position, except near the extreme southwest end of the bank where the shoalest depth of 10 fathoms is found. The recommended route, however, for deep-draft vessels is via the **Boston Traffic Separation Scheme**, which is described at the beginning of this chapter.

(95) **Northern right whales** may occur in the Stellwagen Bank and Jefferys Ledge area in all months, but can be most abundant in the summer through early winter, (peak season: July through December). This area has been designated as the **Gerry E. Studds-Stellwagen Bank National Marine Sanctuary**, and includes a portion of the Cape Cod Bay Critical Habitat (See **50 CFR 226.203(a) and (b)**; Chapter 2, for limits and regulations).

Special precautions may be needed to avoid these animals (See northern right whales, indexed as such, Chapter 3).

(96) As the entrance to Boston Harbor is approached, after crossing Stellwagen Bank, soundings of 20 fathoms or more insure a distance of at least 5 miles from the shore and well outside of outlying rocks. Inside the depths of 20 fathoms, the soundings are very irregular and cannot be depended upon as a rule to keep a vessel out of danger. Northeast of Nahant the 20-fathom curve runs closer inshore and some of the dangers extend offshore nearly to the curve.

(97) In the approach to Boston Lighted Horn Buoy B from the southward, the coast from Scituate to Minots Ledge Light should be given a berth of 4 miles to avoid the broken ground of Stellwagen Ledges.

(98) **Entering Boston Harbor in fog.**—In thick weather a course should be laid to clear Boston Lighted Horn Buoy B by a safe distance when approaching from either Cape Ann or Cape Cod, and the water should not be shoaled to less than 20 fathoms until the buoy is located by radar or other means. Occasionally, vessels anchored in Broad Sound have been mistaken on radar for navigational aids; caution is advised. From the buoy, steer a course to pass 0.4 mile northward of Boston Approach Lighted Buoy “BG” and enter the harbor via Boston North Channel. Unless Boston Lighted Horn Buoy B is located, no attempt should be made to enter the harbor.

(99) If a vessel in the vicinity of Cape Cod is overtaken by fog or thick weather, she may find it convenient to anchor in Provincetown Harbor or on the west side of the cape south of Provincetown, where there is a good lee and the holding ground is in 7 to 12 fathoms.

(100) **Pilotage, Boston and vicinity.**—Pilotage is compulsory for all foreign vessels and for U.S. vessels under register in the foreign trade. Pilotage is optional for coastwise vessels which have on board an officer licensed as a pilot by the Federal government for these waters. Pilots for Boston, Weymouth, Braintree, Quincy, Lynn, and Saugus are available from Boston Pilots, Pier No. 1, S. Bremen Street, East Boston, MA 02128. Telephone: office, 617-569-4500; FAX 617-569-4502; Pilot boats, 617-569-4503, 617-962-4970 (night); cable, BOSPILOTS. The pilot office and boats monitor VHF-FM channels 11, 13, and 16; the boats work on channel 20. Pilot services are generally arranged for in advance through ship’s agents.

(101) The pilot boats meet vessels in the vicinity of Boston Lighted Horn Buoy B (42°22.7'N., 70°47.0'W.) During winter, the pilot boats may seek shelter from northwest winds under Nahant Head.

(102) The pilot boats, NORTHERN LIGHT and PHANTOM, both 50 feet long, have black hulls with orange superstructures with the word PILOT in black letters on the sides. The pilot boats will provide boarding instructions by radiotelephone.

(103) When about 2-hours away vessels are requested to provide an updated ETA.

(104) The Boston Harbor Federal Pilots, L.L.C. offer pilotage for U.S. public vessels and U.S. flagged commercial vessels not under registry in foreign trade. Boston Harbor Federal Pilots serve vessels proceeding to and from the ports of Boston, Braintree, Quincy, and Weymouth. Pilots can be contacted at: Boston Harbor Federal Pilots, L.L.C., 84A Franklin Street, Quincy, MA 02169. Telephone: office, 617-799-1839; FAX 617-770-3113. Internet address: www.bostonharborfederalpilots.com. The pilot office and boat monitor VHF-FM channels

13, 16, and 17. Pilot services can be arranged in advance through the ship’s agent or by contacting the website directly.

(105) The pilot boat meets vessels in the vicinity between Boston Lighted Horn Buoy B (42°22'42"N., 70°47'00"W.) and Boston Approach Lighted Buoy BG (42°23'24"N., 70°51'30"W.)

(106) The pilot boat, FEDERAL 17, is 44 feet long and has a black hull with a white superstructure. Local launch service may also be used to transport pilots to the boarding vessel.

(107) Vessels are requested to give a 24-hour and an 8-hour ETA. Further instructions will be given by the pilots within 2 hours of arrival on VHF-FM channels 13 and 16.

(108) **Towage.**—Tugs to 3,000 hp are available at Boston. The tugs maintain radio communications on VHF-FM channels 18A and 5A. Inbound vessels are usually met in the vicinity of Anchorage areas 1 or 2. Arrangements for tugs are usually made in advance through ships’ agents. Fireboats are also available; the call for the fireboat is five prolonged blasts of the ship’s whistle.

(109) **Quarantine, customs, immigration, and agricultural quarantine.**—(See chapter 3, Vessel Arrival Inspections, and appendix for addresses.)

(110) **Quarantine** is enforced in accordance with regulations of the U.S. Public Health Service. (See Public Health Service, chapter 1.) Quarantine anchorages for Boston Harbor are on the north side of President Roads and on Bird Island Flats.

(111) Boston is a **customs port of entry**.

(112) **Coast Guard.**—A **marine safety office** and a **vessel documentation office** are in Boston. (See appendix for address.) **Boston Coast Guard Station** is on the south side of the mouth of Charles River.

(113) **Harbor regulations.**—The rules and regulations of the Commonwealth of Massachusetts, the city of Boston, and metropolitan area communities are enforced by the Metropolitan District Commission Police Water Patrol. The harbor patrol boat-house is on the south side of Charles River, about 0.5 mile above the entrance. Copies of State Boating Laws can be obtained from the Commonwealth of Massachusetts, Division of Marine and Recreational Vehicles, 150 Causeway Street, Boston, Mass. 02114.

(114) The Distrigas liquified natural gas facility on Mystic River is within a **safety zone**. Additionally, the waters surrounding loaded LNG vessels transiting Boston Harbor are a **safety zone**. (See 165.110, chapter 2, for limits and regulations.)

(115) **Wharves.**—The Port of Boston has 114 piers and wharves, most of which are located on the main channel at South Boston, East Boston, and Charlestown, and on the Chelsea River and Mystic River.

(116) The piers and wharves generally are of open-pile concrete deck construction, extending from stone or timber bulkheads with solid fill. Only the deep-draft facilities are described; the other active facilities in the port are used as repair berths, and by government vessels, fishing vessels, small craft, and barges. For a complete description of the port facilities refer to Port Series No. 3, published and sold by the U.S. Army Corps of Engineers. (See appendix for address.) The alongside depths for the facilities described are reported; for information on the latest depths contact the Massachusetts Port Authority or the private operator. All of the facilities have direct highway connections, and most have railroad connections. Water and electrical shore power connections are available at most piers and wharves.

(117) General cargo at the port is usually handled by ship’s tackle, except container vessels use shore side equipment; special

handling equipment, if available, is mentioned in the description of the particular facility. A 60-ton floating crane, and crawler and mobile cranes up to 150 tons can be rented.

(118) Numerous warehouses and cold storage facilities adjacent to the waterfront are available.

(119) All of the large general cargo terminals are owned or leased by the Massachusetts Port Authority. Containerized cargo is handled at the John F. Moran Docks and Paul W. Conley Terminal. Most of the deepwater oil and bulk terminals are on the Chelsea River and Mystic River.

(120) The office of the Port Director is at 99 High Street, Boston, Mass. 02210; telephone (617-482-2930).

(121) **Facilities at South Boston:**

(122) **Massachusetts Port Authority, Paul W. Conley Terminal, Berths 11-14:**

(123) Berth 14 (42°20'29"N., 71°00'47"W.): southwest side of Boston Main Channel; 1,625-foot face; 35 feet alongside; deck height, 15 to 16 feet; 26 acres open storage at the terminal; receipt of automobiles; owned by Massachusetts Port Authority and operated by Toyota Motor Sales U.S.A., Inc.

(124) Berths 11-13: adjacent westward of Berth 14 on south side of Reserved Channel; 1,950 feet of berthing space; 37 feet alongside; deck height, 15 to 16 feet; 60 acres open storage at the terminal; two 40-ton container cranes; pipeline to storage tanks with 290,000-barrel capacity; receipt and shipment of general and containerized cargo; receipt of petroleum products; owned and operated by Massachusetts Port Authority.

(125) **Coastal Oil New England, South Boston Ship Dock** (42°20'30"N., 71°01'37"W.): south side of Reserved Channel; 85-foot, 700 feet of berthing space with dolphins; 38 feet alongside; deck height, 14 feet; 26 petroleum storage tanks with 2¼-million-barrel capacity; molasses storage tanks with 4½-million-barrel capacity; receipt and shipment of petroleum products; receipt of molasses; owned by Coastal Oil New England, Inc. and operated by Coastal Oil New England, Inc. and Crompton & Knowles Corp.

(126) **Boston Marine Industrial Park, Berths 1-3 and 6:**

(127) Berth 6 (42°20'37"N., 71°01'31"W.): north side of Reserved Channel, 540-foot face; 35 feet alongside; deck height, 17½ feet; about 2 acres of open storage; pipelines extend to cement storage silos; cement received at a rate of 420 tons per hour; receipt of bulk cement; owned by Massachusetts Port Authority and operated by Coastal Cement Corp.

(128) Berths 1-3 (42°20'38"N., 71°01'17"W.): 964-foot face (upper side), 352-foot face (lower side); 35 feet alongside; deck height, 17½ feet; pipelines extend to storage silos with capacity of 18,700 tons of cement at a rate of 420 tons per hour; receipt of bulk cement; owned by Massachusetts Port Authority and operated by Boston Marine Industrial Park, Massachusetts Port Authority, and Coastal Cement Corp.

(129) **Massachusetts Port Authority, Marine Terminal Wharf** (42°20'57"N., 71°01'44"W.): 800-foot face; 35 feet alongside; deck height, 16 feet; 47 acres of open storage in the rear; receipt of miscellaneous dry bulk commodities and automobiles; owned and operated by Massachusetts Port Authority.

(130) **Massachusetts Port Authority, Commonwealth Pier** (42°21'11"N., 71°02'21"W.): 400-foot face, southeast and northwest sides 1,200 feet long; 40 feet alongside; deck height, 18 feet; mooring excursion vessels and passenger terminal for cruise vessels; owned by Massachusetts Port Authority; various operators.

(131) **Facilities at Charlestown:**

(132) **Mystic Piers 48-50** (42°22'58"N., 71°02'51"W.): 423-foot face (northeast side), 360-foot face (east side), 560-foot face (south side); 25 feet alongside; deck height, 18 feet; open storage for 39,000 tons of salt; receipt of salt; owned by Massachusetts Port Authority and operated by Massachusetts Port Authority and International Salt Co.

(133) **Facilities on Mystic River, south bank:**

(134) **United States Gypsum Co. Wharf** (42°23'02"N., 71°02'58"W.): immediately westward of Mystic River-Tobin Memorial Bridge; 492 feet of berthing space; 27 feet alongside; deck height, 14½ feet; open storage for 38,000 tons; storage silos for 25,000 tons; receipt of gypsum rock from self-unloading vessels; owned and operated by United States Gypsum Co.

(135) **John F. Moran Container Terminal Wharf** (42°23'04"N., 71°03'12"W.): immediately westward of United States Gypsum Co. Wharf; 1,100-foot face, 40 feet alongside; deck height, 17½ feet; 70- and 46-ton traveling container cranes; 50 acres open storage; receipt and shipment of containerized general cargo; owned and operated by Massachusetts Port Authority.

(136) **Facilities on Mystic River, north bank:**

(137) **AFMC, Chelsea Terminal Wharf** (42°23'06"N., 71°02'40"W.): 560 feet of berthing space with dolphins; 35 feet alongside; deck height, 14 feet; storage tanks with 630,500-barrel capacity; receipt and shipment of petroleum products; bunkering vessels; owned and operated by AFMC, Inc.

(138) **Exxon Co., U.S.A., Everett Terminal Wharf, Berth 1** (42°23'17"N., 71°03'21"W.): on west side of Island End River at junction with Mystic River; 300 feet of berthing space; 21 feet alongside; deck height, 15 feet; receipt and shipment of petroleum products; owned and operated by Exxon Co, U.S.A.

(139) **Exxon Co., U.S.A., Everett Terminal Wharf, Berths 3 and 4** (42°23'17"N., 71°03'29"W.): Berth 3, 155-foot face; Berth 4, 90-foot face; 950 feet total berthing space with dolphins; 37 to 39 feet alongside; deck height, 15 feet; pipelines extend to storage tanks with 2½-million-barrel capacity; receipt and shipment of petroleum products; receipt of asphalt; owned and operated by Exxon Co., U.S.A.

(140) **Distrigas of Massachusetts Corp. Wharf** (42°23'19"N., 71°03'43"W.): 0.1 mile west of Exxon Co., U.S.A. Wharf; 67-foot face, 1,000 feet of berthing space with dolphins; 36 feet alongside; deck height, 17 feet; pipelines to storage tanks with 974,000-barrel capacity; receipt of liquefied natural gas; owned and operated by Distrigas of Massachusetts Corp.

(141) **Prolerized New England Co. Scrap Metal Wharf:** 0.2 mile west of Exxon Co., U.S.A. Wharf; 320-foot face, 820 feet of berthing space with dolphins; 37 feet alongside; deck height, 14 feet; 50- and 35-ton traveling gantry cranes; conveyor system with loading rate of 1,000 tons per hour; shipment of scrap metal; owned by Hugo Neu Steel Products, Inc., and Prolerized Transport Systems, Inc., and operated by Prolerized New England Co.

(142) **Facilities on Chelsea River, north bank:**

(143) **Coastal Oil New England, Chelsea Terminal Dock** (42°23'09"N., 71°02'03"W.): 60-foot face; 630 feet of berthing space; 18 to 24 feet alongside; deck height, 20 feet; pipelines extend to asphalt storage tanks with 107,500-barrel capacity and petroleum storage tanks with 153,600-barrel capacity; receipt of asphalt and other petroleum products; owned and operated by Coastal Oil Co.

(144) **Amoco Oil Co., Chelsea Terminal Wharf** (42°23'19"N., 71°01'14"W.): 850 feet of berthing space; 36 feet alongside; deck

height, 15 feet at bulkhead; pipelines extend to storage tanks at rear with 588,000-barrel capacity; receipt and shipment of petroleum products; owned and operated by Amoco Oil Co.

(145) **Gulf Oil Co., Chelsea Terminal Tanker Wharf** (42°23'35"N., 71°01'03"W.): 60-foot face, 960 feet of berthing space; 32 feet alongside; deck height, 14 feet; pipelines extend to storage tanks with 1½-million-barrel capacity; receipt and shipment of petroleum products; bunkering vessels; owned by Gulf Oil Co., Inc. and operated by Gulf Oil Co. and Northeast Petroleum Corp.

(146) **Facilities on Chelsea River, south bank:**

(147) **Mobil Oil Corp. Wharf** (42°23'06"N., 71°01'28"W.): 660 feet of berthing space; 26 feet alongside; deck height, 16 feet; pipelines extend to storage tanks with 1¼-million-barrel capacity; receipt and shipment of petroleum products; owned and operated by Mobil Oil Corp.

(148) **BP Oil Co. Pier** (42°23'48"N., 71°00'45"W.): north and south sides 550 feet of berthing space; north side 10 to 21 feet alongside, south side 10 to 35 feet alongside; deck height, 15 feet; pipelines extend to storage tanks with 1¼-million-barrel capacity; receipt and shipment of petroleum products; owned and operated by BP Oil Co. and Global Petroleum Co.

(149) **Coastal Oil New England, Ship Pier** (42°23'51"N., 71°00'48"W.): south side has 600 feet of berthing space; 37 feet alongside; deck height, 15 feet; pipelines extend to storage tanks with 1¼-million-barrel capacity; receipt and shipment of petroleum products; bunkering vessels; owned and operated by Coastal Oil New England, Inc.

(150) **Supplies.**—Provisions and marine supplies of all kinds are available in the port of Boston. All grades of heavy marine bunker fuel, lubricants, and diesel fuel can be obtained. Vessels may bunker directly at several of the marine oil terminals or may be serviced by barges at anchor or at loading berths. Gasoline can be obtained at the marinas or from barges anchored in the stream in the summer.

(151) **Repairs.**—The port of Boston has excellent facilities for making all types of hull and engine repairs to vessels of all sizes. Several of these firms operate waterfront facilities for the construction, repair, and conversion of oceangoing vessels, tugs and towboats, barges, and various types of small vessels. In addition, there are a number of firms without waterfront facilities which are engaged in marine repair work. These companies maintain shops and portable equipment for making above-waterline repairs and for installing equipment, gear, and machinery on all types of craft at their berths. There are several drydocks and marine railways available in the port. The largest repair facility is located in South Boston. The South Boston yard has two graving docks, the largest of which has a length of 1,175 feet with a width of 109 feet at the entrance, and a depth of 35 feet over the sill. Cranes to 50 tons are at the yard.

(152) A marine railway in the port can handle vessels to 180 feet long and 1,000 tons

(153) Several smaller repair facilities in the port cater to yachtsmen and small-craft operators.

(154) **Communications.**—Boston is the terminus of two trunk railroads; the Boston and Maine Railroad and ConRail. About 35 steamship lines serve the port in foreign trade to or from over 175 world ports. There is little or no coastwise traffic except in bulk gypsum, liquid sulfur, cement, and petroleum.

(155) Several major airlines provide frequent scheduled services between Logan International Airport in East Boston and domestic and overseas points.

(156) Boston has through bus and rail service to all points. There are numerous trucking firms engaged in long- and short-haul freight service from the port.

(157) **Small-craft facilities.**—Public float landings for small craft are at Summer Street, Northern Avenue, on Charles River, and several other places along the waterfront. Small-craft facilities at Boston and Charlestown can provide berths with electricity, water, ice, marine supplies, wet storage, and sewage pump-out; complete hull, engine, and electronic repairs are available.

(158) **Chart 13272.—East Boston**, on the northeastern side of Boston Harbor, is separated from the city of Chelsea by Chelsea River. The waterfront has modern piers and a large ship repair yard. These facilities were described earlier in this chapter under Wharves, Boston Harbor.

(159) The Jeffries Yacht Club is in the cove adjacent westward of Logan International Airport. A boatyard, close southwestward of the yacht club, has a marine railway that can handle vessels up to 100 tons for hull and engine repairs; a 10-ton crane is also available. A **fireboat** moors on the east side of the cove.

(160) **Chelsea** is separated from Charlestown, on the western side of the harbor, by the Mystic River. **Charlestown** is separated from Boston proper by the Charles River. **Charleston Navy Yard** is located on the north side of the mouth of the Charles River and is home to the **U.S.S. Constitution**. A **safety zone** has been established around the Constitution when moored and underway. (See **165.20**, **165.23**, and **165.111**, chapter 2, for limits and regulations.) **South Boston** is on the peninsula southeast of the city proper, from which it is separated by Fort Point Channel.

(161) **Logan International Airport** is between Governors Island Flats and East Boston. The airport area, almost entirely filled land, is low, flat, and quite extensive. **Governors Island**, on the northeast side of Boston Main Channel and at the southerly end of the airport, is a low grass-covered peninsula.

(162) **Castle Island**, on the southwest side of Boston Main Channel 1 mile northwestward of Spectacle Island, is marked by **Fort Independence**. It is connected to the shore westward by filled land. Several boulders bare at low water are a short distance southeastward of Castle Island. This area should be avoided. On the northeast corner of the island is the 52-foot granite **Donald McKay Monument**, erected in 1933 to commemorate the famous East Boston builder of clipper ships.

(163) **Pleasure Bay**, just westward of Castle Island, is closed by an earth-filled dam extending from the southern end of the island to the jetty light southeastward of **City Point**.

(164) **Reserved Channel**, 0.5 mile northwestward of Castle Island, is a dredged unmarked channel which leads westward from the Boston Main Channel for about 1 mile. In March 2000, the channel had a controlling depth of 40 feet to about 0.6 mile above the entrance; thence in 1996, 30 feet to the head of the project. In February 1999, a fixed bridge with a design clearance of 6½ feet, was under construction at the head of the dredged channel.

(165) There are modern and extensive freight terminals on the north and south sides of Reserved Channel; these facilities were described earlier in this chapter under Wharves, Boston Harbor.

(166) **Fort Point Channel** separates Boston proper from South Boston. A dredged channel leads from the entrance to the Summer

Street Bridge. In 1981, the controlling depth was 11 feet to the Northern Avenue Bridge; thence in 1978, 15 feet to the Summer Street Bridge, except for shoaling to 14 feet at the east abutment of the Northern Avenue Bridge. Using the chart, Fort Point Channel is navigable to just below Dorchester Avenue Bridge. Vessels bound for Fort Point Channel may require the assistance of a tug.

(167) Fort Point Channel navigable section is crossed by four bridges. Northern Avenue Bridge, at the entrance, has a swing span with a clearance of 7 feet. Deeper water is found under the east draw. (See **117.1 through 117.59 and 117.599**, chapter 2, for drawbridge regulations.) A highway bridge just above the Northern Avenue Bridge, has a fixed span with a clearance of 16 feet. The Congress Street Bridge has a fixed span with a clearance of 6 feet, and the Summer Street Bridge has a fixed span with a clearance of 8 feet.

(168) A **special anchorage** is on the west side of the entrance to Fort Point Channel. (See **110.1 and 110.30 (m)**, chapter 2, for limits and regulations.)

(169) **Charles River**, on the western side of the harbor between Boston proper and Charlestown, is the approach by water to **Cambridge** and Watertown. The entrance of the river to the Charlestown Bridge, the first bridge, has been dredged for its full width to a depth of 35 feet.

(170) **Charles River Dam** is about 0.55 mile above the entrance to the river. The dam has three locks; the large north lock has a usable length of 300 feet and width of 40 feet with 14 feet over the sill; the other two locks have usable lengths of 200 feet with widths of 25 feet and 6 feet over the sills. An overhead walkway with a monorail beneath it across the downstream end of the locks has a least clearance of 26 feet. A second dam is about 1 mile above the entrance. The dam has a single lock with usable dimensions of 350 feet length and 45 feet width with 17 feet over the sill. The lock is no longer in use and is maintained in the open position. (See **207.10**, chapter 2, for regulations governing the use, administration, and navigation of the locks.) The controlling depth between the two dams is 15 feet.

(171) A “no wake” **speed limit** is enforced between the entrance to Charles River and the Charles River Dam.

(172) Charles River above the dams is maintained at a height of 7.2 feet above mean low water. In 1964, it was reported that there was a controlling depth of 15 feet to Arsenal Street Bridge, thence 3 feet for 2 miles to the head of navigation at Galen Street Bridge in **Watertown**. In 1976, shoaling to 1 foot was reported about 0.5 mile upstream from the Arsenal Street Bridge. In June 1979, it was reported that 5 feet could be carried by favoring the north bank. Mariners are advised to use caution while navigating in this area. The river above the dams is used by many yachts and small craft. No toll is charged for passage through the locks. There are four yacht clubs on the river, some college sailing and rowing clubs, a large marina below the dams and two public float landings above the dams.

(173) The Charlestown Bridge crosses the river just below the lower Charles River Dam and has a fixed span with a clearance of 23 feet. Use the south span. The Interstate 93 highway bridge about 100 yards upstream of the lower dam has a fixed span with a clearance of 48 feet due to an overhead pipeline being suspended from below the bridge. In August 1997-1999, two bridges were being built close west of the Interstate 93 highway bridge and east of the MBTA bascule bridge. The Mainline Bridge, west of the Interstate 93 bridge, has a fixed span with a

design clearance of 23 feet and the Storrow Drive Bridge, about 100 feet west of the Mainline Bridge, has a fixed span with a design clearance of 36 feet. Both bridges will replace the Interstate 93 highway bridge when completed. The Massachusetts Bay Transportation Authority (MBTA) bridge has a bascule span with a clearance of 3 feet. The MBTA and Monsignor O’Brien bascule bridges at the upper Charles River Dam have a clearance of 5 feet. (See **117.1 through 117.59 and 117.591**, chapter 2, for drawbridge regulations.)

(174) Above the upper dam, Charles River is crossed by 12 fixed bridges. The Longfellow Bridge just above Broad Canal has a clearance of 29 feet above permanent water level. Above this bridge the clearance is 12 feet above permanent water level except at the Galen Street Bridge in Watertown-Newton where the clearance is 11 feet. The minimum channel width of these bridges is 45 feet.

(175) **Lechmere Canal**, adjacent and northwestward of the upper dam, is crossed near the mouth by a highway bridge with a 40-foot bascule span having a clearance of 7 feet above permanent water level. (See **117.1 through 117.59 and 117.591**, chapter 2, for drawbridge regulations.)

(176) **Broad Canal** extends westward for about 0.2 mile from just downstream of the Cambridge end of the Longfellow Bridge. The canal above this point has been filled in. Two highway bascule bridges cross the canal at the entrance; least channel width, 40 feet, and least vertical clearance, 4 feet above permanent high water. (See **117.1 through 117.59 and 117.591**, chapter 2, for drawbridge regulations.) Traffic consists of oil barges to the Cambridge Electric Light Co. wharf, on the north side of the canal above the bridges.

(177) **Little Mystic Channel** is a slip about 0.5 mile long 0.2 mile south-southeast of the mouth of the Mystic River at Charlestown. Midchannel depths above the 35-foot dredged berth range from 29 feet just east of the highway bridge to 17 feet 600 yards westward of the bridge. The fixed highway bridge over the channel has a clearance of 9 feet. The horizontal clearance in the channel is limited to 75 feet due to the remains of the approaches of the former Chelsea Street Bridge immediately downstream.

(178) A visible wreck is about 300 yards westward of the highway bridge on the north side of the slip.

(179) **Chelsea River**, locally known as Chelsea Creek, emptying into Boston Harbor from eastward between East Boston and Chelsea, is the approach to important wharves and facilities, and to the city of **Revere** at the head, 2.6 miles above the entrance.

(180) In 1982-April 1985, the controlling depth in Chelsea River was 15 feet (32 feet at midchannel) to the Chelsea Street Bridge, thence 16 feet (34 feet at midchannel) through the bridge, thence 24 feet (35 feet at midchannel) to the basin about 0.6 mile above the Chelsea Street Bridge, thence 32 to 35 feet in the basin.

(181) Two drawbridges cross the river. The Andrew P. McArdle Bridge, just above the mouth, has a bascule span with a clearance of 21 feet, and the Chelsea Street Bridge, 0.8 mile upstream, has a bascule span with a clearance of 9 feet. In the open position, the bascule span of the Chelsea Street bridge overhangs the channel above a height of 83 feet. (See **117.1 through 117.59 and 117.593**, chapter 2, for drawbridge regulations.) The bridgetender of these bridges monitor VHF-FM channel 16 and work on channel 13.

(182) A **safety zone** is centered on the Chelsea Street bridge. (See **165.1 through 165.7, 165.20 through 165.23, and 165.120**, chapter 2, for limits and regulations.)

(183) In May 1986, an obstruction was reported along the face of East Boston fender of the Chelsea Street Bridge; caution is advised.

(184) Chelsea River has a heavy traffic of deep-draft oil tankers. The tankers berth at the oil company terminals and storage areas on both banks of the river. These facilities were described earlier in this chapter under Wharves, Boston Harbor.

(185) **Mystic River**, which empties into Boston Harbor opposite Chelsea River, is the approach by water to the towns of **Medford and Malden**.

(186) In 1996, the midchannel controlling depth in the dredged channel was 24 feet to within 200 feet of the Malden Bridges, thence in 1975, 11 feet (14 feet at midchannel) to about 850 feet above the bridges, thence 6 feet to the Amelia Earhart Dam; thence in 1975, 6 feet for about 400 feet upstream of the dam, thence in 1975–1976, 6 feet from about 100 feet upstream of the MBTA bridge for about 0.2 mile above the Wellington Bridge, thence in 1976, 4 feet to the Craddock Bridge, about 4.4 miles above the entrance. **Note:** In April 1978, no surveys were available from 400 feet upstream of the dam to 100 feet upstream of the MBTA bridge. Mariners are advised to exercise caution in this area.

(187) Two **special anchorages** are on either side of the north end of the Mystic River-Tobin Memorial Bridge. (See **110.1 and 110.30 (c) and (d)**, chapter 2, for limits and regulations.)

(188) The mouth of the Mystic River is crossed by the Mystic River-Tobin Memorial Bridge, a high-level fixed highway bridge, with a clearance of 135 feet. The Malden Bridges, 1.2 miles above the mouth, have bascule spans with a clearance of 12 feet. (See **117.1 through 117.59 and 117.609**, chapter 2, for drawbridge regulations.) The Boston and Maine railroad bridge, 1.5 miles above the mouth, has a fixed span with a clearance of 30 feet.

(189) Amelia Earhart Dam, an earth-filled dam with 3 locks, crosses the Mystic River about 1.6 miles above the mouth. The largest lock, a commercial-vessel type, has a length of 325 feet, a width of 45 feet, and depths of 15½ feet over the lower sill and 11½ feet over the upper sill. Two smaller parallel locks just westward have lengths of 120 feet, widths of 22 feet, and depths of 6½ feet over the lower sills and ½ foot over the upper sills. (See **207.9**, chapter 2, for regulations governing the use, administration, and navigation of the locks.)

(190) There are no overhead vertical restrictions on any of the locks.

(191) The Massachusetts Bay Transportation Authority (MBTA) railroad bridge, just upstream from the Malden River entrance, has a fixed span with a vertical clearance of 30 feet above normal pool level. The Wellington Bridge, 2.2 miles above the mouth, has a bascule span with a clearance of 16 feet at normal pool level. The Harvard Street Bridge (General Lawrence Bridge), 3.3 miles above the mouth, has a bascule span with a clearance of 13 feet at normal pool level. The Wellington and Harvard Street Bridges are maintained in the closed position. (See **117.609**, chapter 2, for drawbridge regulations.) Highway 93 bridge about 0.5 mile above the General Lawrence Bridge has a fixed span with a clearance of 16 feet at normal pool level. **Note:** Normal pool level is 6.2 feet above mean low water.

(192) A large marina is on the north bank of the river, just westward of the Boston and Maine Railroad bridge. Gasoline, water, ice, marine supplies, storage facilities, a small-craft launching

ramp, and a 15-ton mobile hoist are available; hull, engine, and electronic repairs can be made.

(193) There are two yacht clubs on the river above the mouth of the Malden River: the Winter Hill at Somerville and the Riverside at Medford. The Chelsea Yacht Club is on the north bank on the east side of the Mystic River-Tobin Memorial Bridge. Gasoline, diesel fuel, water, and electricity are available at the floats, which have 30 feet alongside.

(194) **Island End River** is a tributary of the Mystic River entering from northward, 0.5 mile above the entrance. Three companies maintain wharf facilities on the west side of the river. In February 1990, depths of 20 to 23 feet were available on the west side of the river in the approach to the wharves, with depths of 19 to 27 feet reported alongside the wharves in 1979–1982. A rocky area on the east side of the entrance, and the current of Mystic River running across the entrance, make navigation difficult for large vessels. A tug usually is employed to assist such vessels. A dredged channel leads to a marina basin near the head of the river. In February 1990, the controlling depth was 5 feet in the west half of the channel with shoaling to less than 1 foot in the east half, thence in May 1985, depths of 5 feet were available in the basin. The channel is marked by private buoys and daybeacons.

(195) **Malden River**, a tributary of Mystic River from northward, has a privately dredged channel 6 feet deep for a distance of 1.6 miles upstream. In 1959, the controlling depth to the first highway bridge was about 2 feet. Two highway bridges with bascule spans cross the river. The first, 0.3 mile above the mouth has a clearance of 18 feet at normal pool level and is maintained in the closed position. The second, 1.1 miles above the mouth, has a clearance of 6 feet. (See **117.1 through 117.59 and 117.601**, chapter 2, for drawbridge regulations.)

(196) An overhead power cable with a clearance of 60 feet crosses Malden River about 0.5 mile above the first bridge.

(197) **Chart 13270**,—North and west of President Roads is an area of flats, much of which bares at low water. Between **Deer Island Flats** and **Governors Island Flats**, a buoyed channel with a reported least depth of 3 feet leads to Cottage Park Yacht Club at **Winthrop**. Branch channels lead to several other yacht clubs.

(198) The easterly channel leading to Winthrop Head had a midchannel controlling depth of 6 feet in 1996; in May 1998, severe shoaling was reported to encroach the northwest side of the channel in the vicinity of Buoy 2. A light marks the west side of the entrance, and buoys mark the channel. **Snake Island**, on the westerly side of the channel, is 10 feet high with low trees.

(199) The Winthrop Yacht Club, a wharf with depths of about 5 feet alongside its floats, and a marina are on the east bank at Winthrop Head. Gasoline, water, ice, some marine supplies, a small-craft launching ramp, and limited overnight berthage are available at the marina.

(200) The westerly channel leading to **Belle Isle Inlet** has a controlling depth of about 15 feet. A **special anchorage** is off the Pleasant Park Yacht Club, just south of the inlet. (See **110.1 and 110.30 (b)**, chapter 2, for limits and regulations.) The highway bridge over the mouth of the inlet has a 25-foot fixed span with a clearance of 6 feet. Marinas near the yacht club can provide berths, some marine supplies, covered storage, a 50-foot marine railway, and hull and engine repairs. Farther west of the mouth of the inlet are the Orient Heights and East Boston Yacht Clubs. Fuel, water, and various services are available at the yacht clubs.

(201) **Dorchester Bay** extends southwestward from President Roads between **Spectacle Island** and **Thompson Island** on the east and South Boston on the west. The bay is filled with extensive flats, large areas of which are nearly bare at low water and rise abruptly from the edge of the channel. The John F. Kennedy Memorial Library on **Columbia Point** (42°18'54"N., 71°02'22"W.) is prominent. A state-maintained small boat channel leads from the main channel in Dorchester Bay to a turning basin near the JFK Memorial Library. In September 1990, the controlling depth was 10 feet in the channel and the turning basin.

(202) There is no deep-draft vessel traffic in Dorchester Bay.

(203) In 1997, the controlling depths in the dredged channel through Dorchester Bay were 13 feet (14 feet at midchannel) to Buoy 9, thence 4 feet (5½ feet at midchannel) to the Neponset highway bridge.

(204) **Special and general anchorages** are in Dorchester Bay. (See **110.1**, **110.30 (e) through (g)**, and **110.134 (a)(4) and (b)(3)**, chapter 2, for limits and regulations.) The yacht anchorage most commonly used is south and east of City Point, clear of the cable area.

(205) **Old Harbor**, on the west side of Dorchester Bay, just south of South Boston, is filled with flats having little water over them. A channel with a least depth of 5 feet leads to the yacht clubs and the public float in the northeastern part of the harbor, westward of City Point. Gasoline and diesel fuel are available.

(206) **Squantum Channel** leads from the main channel in Dorchester Bay to a marina east of **Squantum Point**. In May 1999, the reported controlling depths were 13 feet in the channel, thence in 1979, 15 feet in the basin with lesser depths closer inshore. The channel to the basin, which is enclosed and protected by stone breakwaters, is marked by buoys. Gasoline, diesel fuel, water, and electricity can be obtained at the floats, and a 30-ton mobile hoist, storage facilities, and marine supplies are available; hull, engine, and electronic repairs can be made.

(207) **Dorchester Bay Basin**, on the southwest side of Dorchester Bay, is entered about 0.2 mile westward of **Commercial Point**, the western entrance point to Neponset River. A channel, privately marked by seasonal buoys, leads to a yacht club on the northwest side of the basin. The entrance to the basin is crossed by a highway bridge with a bascule span having a clearance of 12 feet. (See **117.1 through 117.59** and **117.597**, chapter 2, for drawbridge regulations.) A rock awash, existence doubtful, is reported immediately eastward of the north draw of the highway bridge. Two tanks on Commercial Point, one white and one striped, are prominent.

(208) **Neponset River** enters Dorchester Bay from the south between Commercial Point and Squantum Point. A dam is at **Milton**, 3 miles above the mouth. Small craft with local knowledge navigate to Milton during times of high water.

(209) Several yacht clubs are on the river. A launching ramp is on the west side about 0.2 mile above Commercial Point. Gasoline, diesel fuel, water, ice, marine supplies, storage facilities, and lifts up to 40 tons are available at a large marina on the west side about 1 mile above the mouth; complete hull, engine, and electronic repairs can be made.

(210) Three highway bridges, two fixed and one bascule, and a fixed railroad bridge cross Neponset River below the dam at Milton. The fixed bridges have clearances of 30 feet, and the bascule bridge has a clearance of 6 feet. (See **117.1 through 117.59** and **117.611**, chapter 2, for drawbridge regulations.)

(211) **Quincy Bay** indents the southerly shore of Boston Harbor between the peninsulas of Squantum and Houghs Neck. Depths in the bay are in general 8 to 10 feet, but shoals partly bare at low water extend 0.5 to 0.7 mile from its southerly side.

(212) **Special anchorages** are in Quincy Bay. (See **110.1** and **110.30 (h) and (i)**, chapter 2, for limits and regulations.)

(213) The wharf extending from the south side of **Rainsford Island**, at the northeastern entrance to Quincy Bay, is in ruins. **Quarantine Rocks** extend 0.5 mile southward of the island.

(214) **Sunken Ledge**, bare at low water, is about 1 mile southward of Rainsford Island. A daybeacon is on the ledge, and a light is 0.2 mile southeast of it. A buoy marks a channel west of the ledge.

(215) **Hangman Island**, small and rocky, is near the middle of the entrance to Quincy Bay, 0.6 mile southwestward of Sunken Ledge. The end of a reef extending 0.2 mile southwestward from the islet is marked by a daybeacon. A ledge covered 2 feet is 0.4 mile northward of the daybeacon.

(216) **Wreck Rock**, 0.6 mile southeast of Hangman Island, is covered 6 feet and marked on the north end by a buoy. In July 1981, 4 feet was reported in the vicinity of Wreck Rock.

(217) **Squantum** is on the west side of Quincy Bay. Several lighted radio towers in **North Quincy**, southwestward of Squantum, are visible from the bay. **Moon Head**, which can be recognized by the grassy hill and bluff on its easterly end, is connected to Squantum by a causeway.

(218) A channel with depths of 8 to 12 feet leads northward from Quincy Bay between Moon Head and Long Island to President Roads. **Long Island Viaduct**, which crosses the channel from Moon Head to Long Island, has a fixed span over the navigation channel with a clearance of 51 feet for the center 150 feet.

(219) The route is either by **Western Way**, between Thompson and Spectacle Islands, or by Sculpin Ledge Channel, westward of Long Island.

(220) **Wollaston Channel**, privately maintained, leads southward from the westerly end of Quincy Bay to the small basin of the Squantum and Wollaston Yacht Clubs. In February 1999, the reported controlling depth was 3½ feet in the entrance channel to the basin, thence depths of 4½ to 6 feet were available in the basin; however, with local knowledge, 6 feet could be carried in the entrance channel and basin. The channel is marked by buoys.

(221) **Houghs Neck**, on the southeast side of Quincy Bay, is marked at its northeasterly end by **Quincy Great Hill**, 100 feet high and mostly settled. **Nut Island**, marked by a power station and stack, is connected by a causeway 300 yards northward of Quincy Great Hill.

(222) A private daybeacon marks the outer end of an overflow pipeline extension with riprap cover, off the northeast end of Nut Island. The pipeline extends 150 yards into the bay and is submerged at high water. **Pig Rock**, about 0.6 mile eastward of Nut Island, is visible at all stages of the tide. Rocks awash are close east of Pig Rock.

(223) The Quincy Yacht Club is on the eastern side of Houghs Neck. A channel, marked by buoys, leads to the club wharf.

(224) A **special anchorage** is off the east side of Houghs Neck. (See **110.1** and **110.30 (j)**, chapter 2, for limits and regulations.)

(225) **Spiers Stand**, which uncovers, is about 575 yards off the east side of Houghs Neck and is marked by buoys off its north and south ends. Give Spiers Stand a wide berth, as several groundings have been reported in its vicinity.

(226) **Pedlocks Island**, 0.5 mile northeast of Houghs Neck, is long and narrow with hills in the middle and at both ends, with low land between. The remains of the brick buildings of old Fort Andrews are visible. Caution is advised against approaching the island too closely because of rocks awash.

(227) **West Gut** is a buoyed channel leading into Hingham Bay between Nut Island and Pedlocks Island. The channel through West Gut has a controlling depth of about 23 feet; a 17-foot spot is on the north side of the channel, just southward of Buoy 6.

(228) **Hingham Bay** is that part of Boston Harbor southeastward of Pedlocks Island. It is the approach to Weymouth Fore River, Weymouth Back River, Hingham Harbor, and Weir River. Extensive shoals make out from the southerly shore and surround the islands in the bay. **Hull Bay**, the eastern part of the bay, also has many shoal areas. **Special anchorages** are in Hull Bay. (See **110.1 and 110.31**, chapter 2, for limits and regulations.)

(229) The easterly entrance to Hingham Bay is through Hull Gut, but the entrance through West Gut, southward of Pedlocks Island, is frequently used by vessels bound into Weymouth Fore or Weymouth Back Rivers.

(230) **Hull Gut**, a dredged channel between Pedlocks Island and Windmill Point, leads into Hingham Bay from Nantasket Roads and is a section of the Weymouth Fore River Channel improvement. The tidal currents have an average velocity of about 2 knots at strength and generally follow the direction of the channel; the flood sets southward and the ebb northward. Unmarked submerged rocks cleared to a depth of 15 feet are about 500 yards southward of Windmill Point Light 3.

(231) A channel about 13 feet deep, commencing just southward of the buoy marking **Inner Seal Rock**, about 0.6 mile southeastward of Windmill Point Light, leads to a wharf on the northwest side of **Spinnaker (Hog) Island**. The island is connected to the mainland by a causeway and fixed bridge.

(232) A buoyed channel, eastward of Spinnaker Island, leads northward to a **special anchorage** in **Allerton Harbor**. (See **110.1 and 110.31 (a)**, chapter 2, for limits and regulations.) The Hull Yacht Club is on the north side of the harbor.

(233) A marina with depths of about 6 feet alongside its floats is at **Waveland**, about 0.7 mile southeastward of Spinnaker Island. Gasoline, diesel fuel, water, ice, electricity, marine supplies, a small-craft launching ramp, and lifts up to 30 tons are available; hull, engine, and electronic repairs can be made.

(234) **Weymouth Fore River** has its entrance on the southwest side of Hingham Bay between Houghs Neck and **Grape Island**, and is the approach by water to **Quincy Point, Weymouth, East Braintree**, and several landings. A large shipyard, an electric powerplant, and several other industries are on the river. Waterborne commerce is principally in petroleum products.

(235) **Grape Island**, on the south side of Hingham Bay, has a recreational pier on the southerly side of the island. Ruins of several buildings, nature trails, and picnic areas are on the island. Primitive camping is permitted.

(236) The following are prominent upon entering Weymouth Fore River: a flagpole on Weymouth Great Hill, the bridge at Quincy Point, the large stacks of the Boston Edison Power Plant on the east side of the river just above the bridge, and the overhead traveling bridge crane at the General Dynamics Shipyard.

(237) **Channels**.—A Federal project provides for a 35-foot channel which leads from the sea through Nantasket Roads, Hull Gut, and Hingham Bay, thence into Weymouth Fore River to a turning basin extending 0.5 mile above the bridge crossing the river at

Quincy Point. The channel is well marked. In 1996, the controlling depths were 26 feet (31 feet at midchannel) to the highway bridge at Quincy Point, thence 29 feet to the head of the project. There was 29 feet available in the turning basin 0.5 mile above the highway bridge. Natural depths to about 2 feet are available to Braintree Yacht Club, about 1.3 miles above the turning basin.

(238) The channel through West Gut was described earlier in the chapter.

(239) **Special anchorages** are in Weymouth Fore River. (See **110.1 and 110.30 (j) and (k)**, chapter 2, for limits and regulations.)

(240) State Route 3A highway bridge crossing Weymouth Fore River at Quincy Point has a bascule span with a clearance of 33 feet. The bridgetender monitors VHF-FM channel 16 and works on channel 13; call sign WRD-634. (See **117.1 through 117.59 and 117.621**, chapter 2, for drawbridge regulations.) In August 2000, the State Route 3A highway bridge was being rehabilitated and a temporary vertical lift bridge, with a design clearance of 55 feet down, was being constructed just south of the existing bridge. Three overhead power cables cross the river at: 0.7 mile, 1.1 miles, and 1.3 miles above the State Route 3A highway bridge. The first two overhead cables, 0.7 mile and 1.1 miles, have clearances of 150 feet and 100 feet, respectively. The third overhead cable, 1.3 miles, has a reported clearance of 56 feet. State Route 53 fixed highway bridge, about 1.7 miles south of the bascule bridge, has a fixed span with a clearance of 11 feet.

(241) **Weather, South Weymouth and vicinity**.—**South Weymouth** is about 3 miles SSW of Weymouth. South Weymouth averages about 11 days each year with maximum temperatures in excess of 90°F (32.2°C). July is the warmest month with an average high of 82°F (27.8°C) and an average minimum of 63°F (17.2°C). January is the coolest month with an average high of 36°F (2.2°C) and an average minimum of 19°F (-7.2°C). The highest temperature on record for South Weymouth is 102°F (38.9°C) recorded in August 1975 and the lowest temperature on record is -15°F (-26.1°C) recorded in January 1981. About 121 days each year sees temperatures below 32°F (0°C) and an average seven days each year records temperatures below 5°F (-15°C). Every month except July has seen temperatures below 40°F (4.4°C) and every month except June, July, and August has recorded temperatures below freezing (0°C).

(242) The average annual precipitation for South Weymouth is 44.3 inches (1125 mm) which is fairly evenly distributed throughout the year. Precipitation falls on about 188 days each year. The wettest month is November with 4.6 inches (117 mm) and the driest, July, averages only 2.8 inches (71 mm). An average of 20 thunderstorm days occur each year with June, July, and August being the most likely months. Snow falls on about 51 days each year and averages about 43 inches (1092 mm) each year. Due to the strong maritime influence, only January and February average greater than one foot (305 mm) of snow. One foot (305 mm) snowfalls in a 24-hour period have occurred in each month December through April and 19 inches (483 mm) fell in one 24-hour period during February 1994. About eight days each year has a snowfall total greater than 1.5 inches (38 mm) and snow has fallen in every month, October through May. Fog is present on average 204 days each year and is evenly distributed throughout the year with a slight maximum during mid-summer.

(243) The prevailing wind direction in South Weymouth is the west-northwest during the winter and south-southwest during the warmer months. March is the windiest month.

(244) **Town River Bay** is a branch of Weymouth Fore River north of Quincy Point. A Federal project provides for a channel 35 feet deep from the junction with Weymouth Fore River to a point 1 mile upstream, with a turning basin 35 feet deep at the inner end; thence 15 feet deep to a point just below the Quincy Electric Light & Power Company plant, 1.2 miles above the mouth. (See Notice to Mariners and latest edition of the chart for controlling depths.) About 175 yards above the head of the project on Quincy Reach, an overhead power cable has a clearance of 35 feet.

(245) **Wharves.**—There are three deep-draft facilities on Weymouth Fore River and two on Town River Bay.

(246) **Boston Edison Co. Wharf** (42°14'44"N., 70°57'55"W.): 600-foot face, 700 feet of berthing space with dolphins; 35 feet alongside; deck height, 14 feet; pipelines extend to storage tanks in rear with 482,000-barrel capacity; receipt and occasional shipment of fuel oil; owned by Boston Edison Co. and operated by Sprague Energy.

(247) **Procter & Gamble Manufacturing Co., Quincy East Dock** (42°14'49"N., 70°58'00"W.): 150-foot face with 435 feet berthing space with dolphins; 30 feet alongside; deck height, 15½ feet; receipt of vegetable oil and caustic soda; owned and operated by Procter & Gamble Manufacturing Co.

(248) **Citgo Petroleum Corp., Braintree Terminal Wharf** (42°14'12"N., 70°58'05"W.): 248-foot face, 700 feet berthing space; 38 feet alongside; deck height, 14 to 16 feet; pipelines extend to storage tanks with a 1¼-million barrel capacity; receipt and shipment of petroleum products; owned and operated by Citgo Petroleum Corp.

(249) **Procter & Gamble Manufacturing Co., Quincy North Dock** (42°14'54"N., 70°58'04"W.): 90-foot face with 600 feet berthing space with dolphins, 29 feet alongside; deck height, 16½ feet; pipelines extend to storage tanks in rear with 22½-million gallon capacity; receipt of coconut oil, vegetable oil and caustic soda; owned and operated by Procter & Gamble Manufacturing Co.

(250) **Quinoil Industries, Town River Terminal Wharf** (42°15'12"N., 70°59'10"W.): 77-foot face with 700 feet berthing space with dolphins, 35 feet alongside; deck height, 14 feet; receipt and shipment of petroleum products; bunkering vessels; owned and operated by Quinoil Industries, Inc.

(251) There are several private piers that are used occasionally for mooring barges and small vessels on Town River Bay.

(252) A marina and a yacht club are on the south bank about 0.5 mile and 0.7 mile, respectively, above the entrance. Gasoline, diesel fuel, ice, supplies, and a 15-ton hoist are available; hull and engine repairs can be made.

(253) **Weymouth Back River** is just eastward of Weymouth Fore River and southward of Grape Island. A wharf, in ruins, of a former fertilizer works is on the north side of the river on Eastern Neck. In 1988, the controlling depth in the dredged channel to the wharf was 14 feet. The channel is buoyed.

(254) A **special anchorage** is in Weymouth Back River. (See **110.1 and 110.30 (I)**, chapter 2, for limits and regulations.)

(255) The Lincoln Street (State Route 3A) highway bridge crossing the river has a fixed span with a clearance of 36 feet, 1.8 miles above the entrance. An overhead power cable at the bridge has a clearance of 55 feet.

(256) Small-craft facilities on Weymouth Back River can provide berths with electricity, gasoline, diesel fuel, water, ice, marine supplies, a launching ramp, and lifts to 37 tons; hull, engine, and electronic repairs are available. A public launching ramp is on the north side of the river about 1.5 miles above the entrance.

(257) Hingham Harbor and Weir River in the southeasterly end of Hingham Bay are shallow. Their common entrance is close westward of Bumkin Island. The channel leads in a southeasterly direction for about 0.5 mile from the westerly end of **Bumkin Island** and then divides. The branch leading eastward is Weir River. Bumkin Island has a recreational pier on the southwest side. Ruins of several buildings, nature trails, and picnic areas are on the island. Primitive camping is permitted.

(258) The channel leading to Hingham Harbor trends southward, is narrow, and has a depth of 14 feet up to the harbor entrance off **Crow Point**. The channel is buoyed. The Hingham Yacht Club has a clubhouse, pier, and floats at Crow Point. It is reported that considerable shoaling has occurred along the face of the pier and the northern half cannot be approached by large vessels, except at half tide or higher. Water is available at the pier.

(259) **Hingham Harbor** is a cove 1 mile in length, with an average width of about 0.6 mile. At low water it is a dry flat through which a narrow and tortuous buoyed channel winds to the town of Hingham. In October 1993, the channel had a midchannel controlling depth of 4 feet to Buoy 22 in the vicinity of the old steamship wharf, thence in 1967, about 4 feet to the basin to the westward.

(260) **Special anchorages** are eastward of Crow Point at the entrance to Hingham Harbor and at the southern end of the harbor. (See **110.1 and 110.32**, chapter 2, for limits and regulations.)

(261) The small-boat basin at the south end of the harbor has depths of 2 to 6 feet. A town float landing and ramp are on the south side of the basin, and there are two service wharves where gasoline, diesel fuel by truck, water, and most other services are obtainable. Boat rental and outboard repairs are made.

(262) **Weir River** leads to the wharf at **Nantasket Beach**. In November 1979, the channel had a controlling depth of 7½ feet (9½ feet at midchannel) to the wharf at Nantasket Beach. Extensive flats, mostly bare at low water, are on both sides of the river. The channel is marked by buoys. The channel is used by excursion boats running from Boston to Nantasket Beach during the summer. In November 1979, the large wharf at Nantasket Beach had depths of 9½ and 8 feet alongside the 175-foot southwest and northwest faces, respectively, thence shoaling toward shore. Two small marinas, one north and one south of the wharf, have berths with electricity, gasoline, ice, a launching ramp, a 5-ton lift for emergencies, and open and covered storage available.

(263) A safe anchorage for small craft with good holding ground, mud bottom, is reported close eastward of **Worlds End**, the south entrance point to Weir River. The anchorage is unmarked; local knowledge is advised.